

Research Experiences for Undergraduates (REU)

Supplements and Sites

Program Announcement

NSF 00-107

DIRECTORATE FOR BIOLOGICAL SCIENCES
DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCE AND ENGINEERING
DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES
DIRECTORATE FOR ENGINEERING
DIRECTORATE FOR GEOSCIENCES
DIRECTORATE FOR MATHEMATICAL AND PHYSICAL SCIENCES
DIRECTORATE FOR SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES
OFFICE OF INTEGRATIVE ACTIVITIES
OFFICE OF POLAR PROGRAMS

DEADLINE(S) :

Deadline for REU Sites:

September 15 of each year. (REU Site proposals to the Antarctic Program should be submitted coincident with the annual June deadline.)

Due Date for REU Supplements:

Varies with the research program. Please contact the Program Director for the specific program of your proposal or award for guidance.



NATIONAL SCIENCE FOUNDATION



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SUMMARY OF PROGRAM REQUIREMENTS

GENERAL INFORMATION

Program Title: Research Experiences for Undergraduates (REU)

Synopsis of Program: The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specially designed for the purpose. This announcement features two flexible mechanisms for support of student research: REU Supplements and REU Sites. REU Supplements may be included in proposals for new or renewal NSF grants or cooperative agreements or as supplements to ongoing NSF-funded projects. REU Sites are based on independent proposals to initiate and conduct undergraduate research participation projects for a number of students. REU Sites projects often focus within a single discipline and/or single academic department; however, interdisciplinary or multiple-department proposals with a strong intellectual focus are also encouraged, as are proposals with international dimensions. Undergraduate student participants supported with NSF funds in either Supplements or Sites must be citizens or permanent residents of the United States or its possessions.

Cognizant Program Officer(s):

- REU Points-of-Contact, <http://www.nsf.gov/home/crssprgm/reu/poc.htm>.

Applicable Catalog of Federal Domestic Assistance (CFDA) Number:

- 47.074 --- Biological Sciences
- 47.070 --- Computer and Information Science and Engineering
- 47.076 --- Education and Human Resources
- 47.041 --- Engineering
- 47.050 --- Geosciences
- 47.049 --- Mathematical and Physical Sciences
- 47.078 --- Office of Polar Programs
- 47.075 --- Social, Behavioral and Economic Sciences

ELIGIBILITY INFORMATION

- **Organization Limit:** None
- **PI Eligibility Limit:** None
- **Limit on Number of Proposals:** None

AWARD INFORMATION

- **Anticipated Type of Award:** All award mechanisms are applicable to REU
- **Estimated Number of Awards:** Varies across Supplements and Sites
- **Anticipated Funding Amount:** Varies across Supplements and Sites

PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Guidelines

- **Proposal Preparation Instructions:** Supplemental Preparation Guidelines
 - The program announcement/solicitation contains supplements to the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full program announcement/solicitation for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required
- **Indirect Cost (F&A) Limitations:** An administrative allowance, limited to 25% of the participant stipend support only, is allowed for REU Supplement and Site awards in lieu of indirect costs.
- **Other Budgetary Limitations:** Special Note: A grantee may pay stipends as scholarships or wages as it determines appropriate. In either case, money received by individuals may be taxable income under the Internal Revenue Code of 1986 and may also be subject to state or local taxes.

C. Deadline/Target Dates

- **Letter of Intent Due Date(s):** None
- **Preproposal Due Date(s):** None
- **Full Proposal Due Date(s):**

Deadline for REU Sites: September 15 of each year. (REU Site proposals to the Antarctic Program should be submitted coincident with the annual June deadline.)

Due Date for REU Supplements: Varies with the research program. Please contact the Program Director for the specific program of your proposal or award for guidance.

D. FastLane Requirements

- **FastLane Submission:** Full Proposal Required
- **FastLane Contact(s):**
 - FastLane Help Desk, telephone: 1-800-673-6188, e-mail:fastlane@nsf.gov.
 - FastLane Contacts, <http://www.fastlane.nsf.gov/a0/flcontacts.htm>.

PROPOSAL REVIEW INFORMATION

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full program announcement/solicitation for further information.

AWARD ADMINISTRATION INFORMATION

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF Reporting Requirements apply.

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I. INTRODUCTION

The National Science Foundation announces continuation of the Research Experiences for Undergraduates (REU) program, a Foundation-wide program for support of active research participation by undergraduate students. The REU program seeks to expand student participation in all kinds of research -- whether disciplinary, interdisciplinary, or educational in focus -- encompassing efforts by individual investigators, groups, centers, national facilities and others. This announcement features two flexible mechanisms for support of student research: REU Supplements and REU Sites. The REU program is a major contributor to the NSF goal of developing a diverse, internationally competitive, and globally engaged scientific and engineering workforce. It draws on the integration of research and education to attract a diversified pool of talented students into careers in science and engineering and to help ensure that they receive the best education possible.

II. PROGRAM DESCRIPTION

The REU program, through both Supplements and Sites, aims to provide appropriate and valuable educational experiences for undergraduate students through research participation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specially designed for the purpose. REU projects feature high quality interaction of students with faculty and/or other research mentors and access to appropriate facilities and professional development opportunities. Active research experience is considered one of the most effective ways to attract talented undergraduates to and retain them in careers in science and engineering, including careers in teaching.

REU opportunities are an excellent way to reach broadly into the student talent pool of our nation. NSF is particularly interested in increasing the participation in research of women, underrepresented minorities, and persons with disabilities. REU projects are strongly encouraged to involve students who are members of these groups. Underrepresented minorities are African-Americans, Hispanics, Native Americans, and Native Pacific Islanders.

The REU program welcomes projects with an international dimension. The design of such projects is based on the opportunity at hand, but typically involves partnering of an experienced REU project in the U. S. with international collaborators in a selected organization or institution. Successful projects arise from shared commitment to research and education in a focused area. Possible projects should be discussed with a Program Director in the NSF Division of International Programs (INT), as well as with the disciplinary Program Director for REU. The INT web site (<http://www.nsf.gov/sbe/int/>) provides information concerning international opportunities and programs.

Supplement and Site projects may be carried out during the summer months, during the academic year, or both. REU Sites may be proposed for durations of one to five years, with a three-year duration being typical in most NSF directorates. The term of REU Supplements may not exceed that of the underlying research project. Preproposals will not be accepted for the REU program.

REU Supplements

REU Supplements are supported by the various disciplinary and educational research programs throughout the Foundation, including programs such as Small Business Innovation Research. The request for an REU Supplement may be made within a proposal for a new or renewal NSF grant or cooperative agreement or as a supplement to an existing NSF award. A Supplement typically provides research experience for one or two undergraduate students. However, Centers or large research efforts may request support for a number of students commensurate with the size and nature of the project. For guidance concerning REU Supplements, please consult with the NSF Program Director of the particular research program for the proposal or award.

REU Sites

REU Sites are based on independent proposals, submitted at an annual deadline date, to initiate and conduct undergraduate research participation projects for a number of students. Funds for the establishment of REU Sites may be requested from any of NSF's disciplinary research directorates and the Office of Polar Programs. Successful Site proposals in EPSCoR states may be eligible for co-funding with the NSF EPSCoR program.

REU Sites projects must have a well-defined common focus. This is often achieved within the scope of a single discipline or academic department, although interdisciplinary or multiple-department proposals with a strong intellectual focus are also encouraged. Each proposal should reflect the unique combination of the proposing institution's interests and capabilities. Cooperative regional arrangements among institutions will be considered so that a project might increase the quality or availability of undergraduate research experiences. REU Sites are encouraged to involve students in research who might not otherwise have the opportunity, particularly those from institutions where research programs are limited.

Proposals for REU Sites are invited to include an optional ethics-in-science component. Information about current activities is available through a link on the home page of the NSF Societal Dimensions of Engineering, Science, and Technology program at <http://www.nsf.gov/sbe/ses/sdest/start.htm>. In addition, the web site (<http://www.onlineethics.org/>) of the NSF-supported Science and Engineering Ethics Center contains many useful resources for developing a pedagogically sound ethics component.

Some NSF Directorates encourage inclusion in the REU program of K-12 teachers of science, mathematics, and engineering. For example, the Directorate for Mathematical and Physical Sciences invites successful REU Site proposals to apply for supplemental funding for an additional activity for K-12 teachers through the MPS Research Experiences for Teachers program.

III. ELIGIBILITY INFORMATION

The categories of proposers identified in the Grant Proposal Guide are eligible to submit proposals under this program announcement/solicitation.

Eligible Student Participants: **Undergraduate student participants supported with NSF funds in either Supplements or Sites must be citizens or permanent residents of the United States or its possessions.** An undergraduate student is a student who is enrolled in a degree program (part-time or full-time) leading to a baccalaureate or associates degree. Students who are transferring from one institution to another and are enrolled at neither institution during the intervening summer may participate. High school graduates who have not yet enrolled and students who have received their bachelor's degrees and are no longer enrolled as undergraduates generally are not eligible. For REU Sites, a significant fraction of the student participants should come from outside the host institution. Some NSF Directorates encourage inclusion in the REU program of K-12 teachers of science, mathematics, and engineering. Please contact the disciplinary Program Director for guidance.

Principal Investigator: For REU Site proposals, a single individual should be designated clearly as Principal Investigator. This individual will be responsible for overseeing all aspects of the award. However, the institution may designate one additional person as co-principal investigator, should developing and operating the REU Site involve such shared responsibility. Other anticipated research supervisors are listed as Senior Personnel.

IV. AWARD INFORMATION

An REU activity may be funded as a component of a new or renewal grant or cooperative agreement, as a supplement to an existing award, or as a standard or continuing grant (as for Sites). The number of awards made for Supplements and Sites varies across the Foundation, as does the amount of funds invested each year.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG) (NSF 00-2). The complete text of the GPG (including electronic forms) is available electronically on the NSF Web Site at: <http://www.nsf.gov/pubs/2000/nsf002/start.htm>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

Request for REU Supplement

REU Supplements are supported by the various disciplinary and educational research programs throughout the Foundation. An REU Supplement request may be included in a proposal for a new or renewal NSF grant or cooperative agreement, or submitted later as for supplement to an ongoing award. In either case, the description of the REU activity should articulate in some detail the form and nature of each prospective student's involvement in the research project. The experience of the Principal Investigator (or other possible research mentors) in involving undergraduates in research should be described, including any previous REU Supplement support and the outcomes from that support. A brief description of the process and criteria for selection of the student(s) should be included. If the student has been pre-selected, as may be the case in supplementation of an ongoing award, then the grounds for selection and a brief biographical sketch of the student should be included. Normally funds may be available for up to two students, but exceptions will be considered for training additional qualified students who are members of underrepresented groups (women, minorities, and persons with disabilities). Centers or large research efforts may request support for a number of students commensurate with the size and nature of the project. For guidance concerning REU Supplement requests, please consult with the NSF Program Director of the particular research program of the proposal or award.

A request for a supplement to an existing NSF award is submitted via the FastLane Notifications and Request module using the "Other" Request Option. The Investigator enters the description of the REU activity (as specified above and limited to 3 pages), including a justification of the funds requested for student support and their proposed use, and prepares a budget (NSF Form 1030). All student costs are entered under line F as participant support costs. An administrative allowance (limited to 25% of the participant stipend support only) is allowed for REU awards in lieu of indirect costs (enter at line I of Form 1030). The request is then forwarded to the institution's Sponsored Projects Office for submission to NSF. A paper copy of the budget (NSF Form 1030) signed by both the PI and Authorized Organizational Representative should be forwarded to NSF and postmarked within 5 working days following submission of the supplemental funding request. At the time of publication of this program announcement, the Fastlane "Other" Request option does not accept non-ASCII characters and/or images. If such are needed, then note this in the Fastlane text and indicate that a paper copy will be forwarded to NSF, along with the signed budget form, as noted above.

In the case of REU Supplement requests submitted as part of a proposal for new or renewal support, the description of the REU activity (as specified above and limited to 3 pages) is entered in FastLane in the section for Supplementary Documentation. The budget for the REU Supplement is included in the yearly project budget. All student costs are entered under line F as participant support costs. An administrative allowance (limited to 25% of the participant stipend support only) is allowed for the REU portion in lieu of indirect costs (added into line I of Form 1030). The budget justification for the proposal must contain a separate explanation of the REU Supplement request, with the proposed student costs itemized and justified and a total given for the items plus administrative allowance. If the intention is to engage students as technicians, not as REU research participants, then any requested funds would be entered on line B4 (Undergraduate Students) of Form 1030.

As a guide to budget development, student stipends for summer projects are expected to be comparable to those of REU Site participants, typically at least \$300 per week beyond other participant support costs per student, with academic-year stipends comparable on a pro rata basis. Total costs for a summer are expected to be typically about \$6,000 per student. **This is a guideline figure, neither a floor nor a ceiling.**

Results from any REU Supplement activity must be included in the annual progress report of the award. The NSF FastLane project reporting system calls for information on participants and on publications and products, as well as discussion of activities and contributions in education and human resource development.

Proposal for REU Site

(1) **Cover Sheet** (NSF Form 1207): So that your proposal is properly identified, select the number for the REU program announcement from the pull-down list. From the ensuing screen, select the Division or Directorate to which the proposal is directed. In the title of the project, include the label "REU Site."

(2) **Information about Principal Investigators** (NSF Form 1225): This form is automatically generated by FastLane. A single individual should be designated clearly as Principal Investigator. This individual will be responsible for overseeing all aspects of the REU Site award. However, the institution may designate one additional person as co-principal investigator, should developing and operating the REU Site involve such shared responsibility. Other anticipated research supervisors are listed as Senior Personnel.

(3) **Project Summary** (1-page limit): Provide a description of the activities that would result if the project is funded including comments on its objectives, students to be accepted, and intended impact. The project summary should include the following information: name of the host institution/organization and of any other institutions/organizations involved; the major field and subfields that describe the proposal area; a project title that will permit a prospective student to identify the focus of the site (the title will be used in web-based lists of REU sites); number of students involved; number of summer weeks on site and any academic year activity; name, telephone number and email address of the point-of-contact for student recruitment; and a Web address for Site information (if known).

(4) **Table of Contents** (NSF Form 1359): The Table of Contents is generated by FastLane and cannot be edited.

(5) **Project Description**: The project description contains the following items "a" through "f" and is not to exceed 15 pages in length.

(a) Overview. Provide a brief description of the objectives of the proposed REU Site, targeted student participants, intellectual focus, organizational structure, timetable, and institutional commitment.

(b) Nature of Student Activities. NSF believes undergraduate research experiences have their greatest impact in situations that lead the participants from a relatively dependent status to as independent a status as their competence warrants. Proposals should address the approach to undergraduate research training being taken, and should provide detailed descriptions of

examples of research projects that students will pursue. Proposals must present plans that will ensure the development of student-faculty interaction and student-student communication. Development of collegial relationships and interactions is an important part of the project opportunity.

(c) The Research Environment. This subsection should describe the experience and record of the involvement with undergraduate research of the Principal Investigator, the faculty who may serve as research mentors, and the institution. This should include information on the record of faculty/mentors in publishing work involving undergraduate authors and in providing professional development opportunities for student researchers. The facilities, equipment, and other resources available to support the proposed undergraduate research experiences should be described in relation to those activities. The NSF form on Facilities, Equipment, and Other Resources is not required; rather, such information should be included in this subsection.

(d) Student Recruitment and Selection. The overall quality of the student recruitment and selection processes and criteria will be an important element in proposal evaluation. The recruitment plan should be described with as much specificity as possible, including the types and/or names of institutions where students will be recruited and the efforts to be made to attract members of underrepresented groups (women, minorities, and persons with disabilities).

In addition to increasing the participation of underrepresented groups, another goal of the program is to involve students in research who might not otherwise have the opportunity, particularly those from institutions where research programs are limited. Thus, a significant fraction of the student participants should come from outside the host institution. The number of students per project should be appropriate to the institutional setting and to the manner in which research is conducted in the discipline. Proposals involving fewer than six students total are discouraged. Undergraduate student participants supported with NSF funds in either Supplements or Sites must be citizens or permanent residents of the United States or its possessions.

(e) Project Evaluation and Reporting. This subsection should provide a plan for evaluation of the proposed project, including such matters as: measures to be employed to gauge project success; mechanisms for assessment of the project by participants and faculty and administrative observers; follow-through procedures to promote continuation of student interest and involvement in research; plans for tracking participants after they complete the project research experience; etc. Annual progress reports are required through the NSF project reporting system in FastLane. The progress report calls for information on project participants, on the research training provided and other educational activities, on publications and products, and most importantly on contributions to education and human resource development. Data for the progress report should feed into the project evaluation plan which in turn should enable informed statements about contributions and success in meeting project goals.

(f) Results from Prior Support (if applicable): If no prior support has been received through an REU Site award, the maximum of 15 pages may be employed for items "a" through "e" above. If the applicant institution has received prior support through an REU Site award in the disciplinary area(s) of the proposal, the proposal must include a section (limited in length to 5 pages) entitled Results from Prior NSF Support within the 15-page narrative description of the project. This section must describe the earlier REU project(s) and outcome(s) in sufficient detail to permit

reviewers to reach an informed conclusion regarding the value of the results achieved. This will likely include results from the project evaluation; summary information on recruiting efforts and number of applicants, demographic make-up of participants and their home institutions, and career choices of participants; and a list of publications or reports (if to be submitted for publication) resulting from the NSF award.

(6) **References Cited.** A listing of references to pertinent literature is optional.

(7) **Current and Pending Support** (NSF Form 1239). This form should be provided for all persons listed as Senior Personnel (up to a total of 12 people).

(8) **Biographical Sketches** (NSF Form 1362). The basic GPG guidelines for biographical material apply; however, senior personnel are encouraged to include publications with undergraduate co-authors (with the student labelled by an asterisk) and other activities or accomplishments relevant to a successful REU Site. Senior personnel are the principal investigator; the co-principal investigator, if one has been designated; and other faculty/professionals who are anticipated to serve as research mentors. The number of biographical sketches is limited to 12.

(9) **Project Budget.** The proposal should include a detailed project budget and budget justification, as described in the GPG. The budget justification (not to exceed 3 pages) should explain and justify major cost items and any unusual situations/inclusions, as well as details of institutional cost-sharing, if any, and of other sources of support for the REU Site project. Project costs may include such items as faculty salaries and participant stipends, housing, meals, travel, tuition, or laboratory use. Institutions may choose to absorb any of these expenses as their commitment to the REU Site. Various NSF Directorates and Divisions may permit other expenses or exclude some of those just mentioned. It is advisable to check early with the appropriate Directorate/Division about development of the project budget.

An administrative allowance (limited to 25% of the participant stipend support only) is allowed for REU awards in lieu of indirect costs (enter at line I of Form 1030). As a guide to budget development, student stipends for summer projects are expected to be typically at least \$300 per week beyond other participant costs per student, with academic-year stipends comparable on a pro rata basis. All student costs should be entered at line F of Form 1030. Total project costs per year are expected to be typically about \$6,000 per student. This is a guideline figure, neither a floor nor a ceiling.

(10) **Supplementary Documentation.** The following two additional items may be provided.

Optional Ethics Component (limit, 3 pages). Project directors may apply for support of ethics in science or engineering activities in an REU Sites project. Ethics activities should focus on issues relevant to the scientific content of the project and emphasize active student (and, where possible, faculty) involvement in teaching and learning ethical concepts that bear on the issues and skills for their resolution. They may include individual student and faculty research projects, special seminars and symposia or courses, team projects, panel presentations and reports, etc. This section should describe the relevant qualifications of the ethics faculty, expected results of the ethics activities, a plan to evaluate how well the goals are achieved, and results from any prior support for an ethics activity.

Project directors may apply for up to \$4,000 each year in support of ethics activities in an REU Sites project; these funds are not included in the guideline of \$6,000 per student. Up to 25% of the direct costs requested for this component may be budgeted as an administrative allowance, but the yearly total requested for ethics activities may not exceed \$4,000. A separate budget sheet is not possible in FastLane. Thus, the ethics budget is added into the yearly Site budget (NSF Form 1030); but must be itemized in the budget justification, with a total shown for the items plus administrative allowance.

Letters of Commitment. Signed letters of commitment documenting collaborative arrangements of significance to the proposal should be scanned and placed in this section. Letters may be relevant where the awardee and performing organizations are different, where faculty or facilities of more than one institution are to be employed, or where international activities are arranged. Letters of endorsement are not permitted.

Proposers are reminded to identify the program announcement/solicitation number (NSF 00-107) in the program announcement/solicitation block on the proposal Cover Sheet (NSF Form 1207). Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost Sharing is not required in proposals submitted under this Program Announcement .

Indirect Cost (F&A) Limitations: An administrative allowance, limited to 25% of the participant stipend support only, is allowed for REU Supplement and Site awards in lieu of indirect costs.

Other Budgetary Limitations: Special Note: A grantee may pay stipends as scholarships or wages as it determines appropriate. In either case, money received by individuals may be taxable income under the Internal Revenue Code of 1986 and may also be subject to state or local taxes.

C. Deadline/Target Dates

Proposals submitted in response to this announcement must be submitted by 5:00 PM, local time on the following date(s):

Deadline for REU Sites: September 15 of each year. (REU Site proposals to the Antarctic Program should be submitted coincident with the annual June deadline.)

Due Date for REU Supplements: Varies with the research program. Please contact the Program Director for the specific program of your proposal or award for guidance.

D. FastLane Requirements

Proposers are required to prepare and submit all proposals for this Program Announcement through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call 1-800-673-6188.

Submission of Signed Cover Sheets. The signed copy of the proposal Cover Sheet (NSF Form 1207) must be postmarked (or contain a legible proof of mailing date assigned by the carrier) within five working days following proposal submission and be forwarded to the following address:

National Science Foundation
DIS – FastLane Cover Sheet
4201 Wilson Blvd.
Arlington, VA 22230

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority-serving institutions, or adjacent disciplines to that principally addressed in the proposal.

Proposals will be reviewed against the following general review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgements.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Principal Investigators should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to both of the above-described NSF merit review criteria. NSF staff will give these elements careful consideration in making funding decisions.

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens - women and men, underrepresented minorities, and persons with disabilities - is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

Specific to REU

Reviewers will be asked to interpret the two basic NSF review criteria in the context of REU. In addition, they will be asked to place emphasis on the following considerations.

-- The appropriateness and value of the educational experience for the student participants, particularly the appropriateness of the research project(s) for undergraduate involvement and the nature of student participation in these activities.

- The quality of the research environment, including the record of the mentor(s) with undergraduate research participation, the facilities, and the professional development opportunities.
- Appropriateness of the student recruitment and selection plan, including plans for involving students from underrepresented groups and from institutions with limited research opportunities;
- Quality of plans for student preparation and follow-through designed to promote continuation of student interest and involvement in research;
- For REU Sites, effectiveness of institutional commitment and of plans for managing the project and evaluating outcomes.

Requests for REU Supplements to ongoing awards will be reviewed internally by NSF program staff, while requests included in new or renewal proposals will be evaluated through the merit review process for that proposal. REU Sites proposals will be examined by external merit review, usually by panels.

A summary rating and accompanying narrative will be completed and signed by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are mailed to the Principal Investigator/Project Director by the Program Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

B. Review Protocol and Associated Customer Service Standard

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Mail and/or panel review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

In most cases, proposers will be contacted by the Program Officer after his or her recommendation to award or decline funding has been approved by the Division Director. This informal notification is not a guarantee of an eventual award.

NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the Division Director accepts the Program Officer's recommendation.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at its own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See section VI. A, for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)* or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

*These documents may be accessed electronically on NSF's web site at http://www.nsf.gov/home/grants/grants_gac.htm. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF web site at <http://www.nsf.gov/cgi-bin/getpub?gpm>. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO web site at <http://www.gpo.gov>.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented an electronic project reporting system, available through FastLane. This system permits electronic submission and updating of project reports, including information on: project participants (individual and organizational); activities and findings; publications; and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries should be made to the Research Experiences for Undergraduates Program: REU Points-of-Contact, <http://www.nsf.gov/home/crssprgm/reu/poc.htm>.

For questions related to the use of FastLane, contact,

- FastLane Help Desk, telephone: 1-800-673-6188, e-mail:fastlane@nsf.gov.
- FastLane Contacts, <http://www.fastlane.nsf.gov/a0/flcontacts.htm>.

IX. OTHER PROGRAMS OF INTEREST

The NSF Guide to Programs is a compilation of funding for research and education in science, mathematics, and engineering. The NSF Guide to Programs is available electronically at <http://www.nsf.gov/cgi-bin/getpub?gp>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG. Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF E-Bulletin, which is updated daily on the NSF web site at <http://www.nsf.gov/home/ebulletin>, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's Custom News Service (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement/solicitation or contact the program coordinator at (703) 306-1636.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 306-0090, FIRS at 1-800-877-8339.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at plainlanguage@nsf.gov.

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register

268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230, or to Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for National Science Foundation (3145-0058), 725 - 17th Street, N.W. Room 10235, Washington, D.C. 20503.

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